

Bridge No. 97 is a four-span structure that consists of a timber deck on I-beams. The end bents consist of timber caps and piles. The interior bents consist of reinforced concrete caps on timber piles encased in concrete. The existing bridge (Figure 3) was constructed in 1952. The overall length of the structure is 171 feet. The clear roadway width is 19 feet. The posted weight limit on this bridge is 6 tons for single vehicles and 8 tons for TTST's.

There are no utilities attached to the existing structure, but an overhead fiber optic line crosses at the bridge location on the south side of the bridge. There is aerial power and an underground telephone line that crosses overhead just north of the bridge. Utility impacts are anticipated to be medium.

The current traffic volume of 1,047 vehicles per day (VPD) is expected to increase to 1,300 VPD by the year 2035. The projected volume includes one percent truck-tractor semi-trailer (TTST) and three percent dual-tired vehicles (DT). There is a statutory speed limit of 55 miles per hour in the project area. There are existing curve warning signs in the vicinity of the bridge with 40 mph advisory speed signs.

There were six accidents reported in the vicinity of Bridge No. 97 during a recent five-year period. All of the accidents occurred further than 500 feet away from the bridge. Five of the six accidents were associated with alcohol, vehicle speed, or the current weather conditions. One of the accidents was associated with the geometry of the approach roadway.

This section of SR 1925 is designated as a State Bike Route, NC-4 / North Line Trace, in accordance with the Division of Bicycle and Pedestrian Transportation Bicycling Highway Map.

III. ALTERNATIVES

A. Project Description

The replacement structure will consist of a bridge approximately 195 feet long. The bridge length is based on preliminary design information and is set by hydraulic requirements. The bridge will be of sufficient width to provide for two 11-foot lanes with 4-foot offsets on each side. The roadway grade of the new structure will be raised approximately 3 feet on both ends from the existing grade. The structure will be designed using Sub-Regional Tier Guidelines with a design speed of 40 miles per hour. A design exception will be required for sag vertical curves and associated nighttime stopping sight distances.

Bridge No. 97 is located along designated bicycle route NC-4 / North Line Trace. As a result, bicycle accommodations will be provided along with bicycle safe railing.

The existing roadway will be widened to a 22-foot pavement width to provide two 11-foot lanes and 4-foot paved shoulders. The total shoulder width provided on each side will be 6 feet (9-foot shoulders where guardrail is included). This roadway will be designed as a minor collector using Sub-Regional Tier Guidelines.